Am ndm nts to th Claims

This listing of the claims will serve to replace all prior versions, and listings, of claims in the application:

Listing of Claims:

--1. (Currently amended) A laser produced by the process of:

providing a structure comprising a substrate with an ~~epi~~ epitaxial structure thereon comprising a gain region with multiple quantum wells, a mirror stack coupled to the gain region, and a conductive layer coupled to the mirror stack;

dividing the conductive layer into a conductive, central area and one or more dielectric, peripheral areas;

attaching a conductive plate to the conductive layer;

thinning the substrate to improve the passage of light therethrough to produce a substrate remnant; and

attaching an electrode to the substrate remnant;

whereby the conductive plate can act as a mechanical support for the structure, as an electrode, and as a means for dissipating heat.

2. (Original) The laser of claim 1 wherein the step of attaching an electrode to the substrate remnant comprises attaching an annular electrode.

3. (Original) The laser of claim 1 wherein the mirror stack comprises a distributed

Bragg reflector.

4. (Original) The laser of claim 1 wherein the gain region with multiple quantum wells is formed with GaAs interleaved with AlGaAs barrier layers whereby the quantum wells are suitable for light with a wavelength of approximately 850 nm.

5. (Original) The laser of claim 1 wherein the gain region with multiple quantum wells is formed with AlGaAs alloy layers of varying percentages of Al whereby the quantum wells are suitable for light with a wavelength of approximately 780 nm.

6. (Original) The laser of claim 1 wherein the gain region with multiple quantum wells is formed with GaInP alloy with AlGaInP barrier layers whereby the quantum wells are suitable for light with a wavelength of approximately 670 nm.

7. (Original) The laser of claim 1 wherein the conductive layer coupled to the mirror stack is made with AlAs.

8. (Original) The laser of claim 1 wherein the step of dividing the conductive layer into the conductive, central area and one or more dielectric, peripheral areas is carried out by selective oxidation.

9. (Original) The laser of claim 1 wherein the conductive plate is attached to the conductive layer by conductive adhesive.

10. (Original) The laser of claim 9 wherein the conductive adhesive is solder and wherein the step of coupling the conductive plate to the conductive layer is carried out by heating the conductive adhesive, conductive plate, and conductive layer and maintaining the conductive adhesive, conductive plate, and conductive layer at an elevated temperature for a time sufficient to bond the conductive adhesive, conductive plate, and conductive layer together.

11. (Original) The laser of claim 1 wherein the conductive plate is approximately 1 mm in thickness.

12. (Original) The laser of claim 11 wherein the conductive plate is formed from metal.

13. (Original) The laser of claim 1 wherein the step of thinning the substrate to improve the passage of light therethrough to produce a substrate remnant is carried out by a Chemical and Mechanical Planarization (CMP) process.

14. (Original) The laser of claim 13 wherein the step of thinning the substrate

comprises thinning the substrate to a thickness wherein it is substantially transparent to light emitted by the laser.

15-39. (Canceled)

16. (New) The laser of claim 1 wherein the step of thinning the substrate comprises thinning the substrate to a thickness of approximately 10 μm.

17. (New) The laser of claim 1 wherein the step of thinning the substrate comprises thinning the substrate to a thickness of approximately 150 μm.

18. (New) The laser of claim 1 wherein the step of thinning the substrate comprises thinning the substrate by mechanical polishing and reactive ion etching.

19. (New) The laser of claim 1 wherein the step of thinning the substrate comprises thinning the substrate to a thickness equal to or less than a combined thickness of the mirror stack, the gain region, and the conductive layer.

20. (New) The laser of claim 1 wherein the step of thinning the substrate comprises thinning the substrate to a thickness equal to or less than a combined thickness of the mirror stack, the gain region, the conductive plate, and the conductive layer;

21. (New) A Vertical External Cavity Surface Emitting Laser comprising:

a semiconductor chip comprising a mirror stack, a gain region, a substrate remnant, a circular electrode disposed to a first side of the semiconductor ship, and an annular electrode disposed to a second side of the semiconductor chip; and

an external mirror wherein the external mirror and the mirror stack together define a resonant cavity and determine a fundamental cavity mode.

22. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the substrate remnant has a thickness equal to or less than a combined thickness of the mirror stack, the gain region, and the circular and annular electrodes.

23. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the circular and annular electrodes have substantially equal diameters.

24. (New) The Vertical External Cavity Surface Emitting Laser of claim 23 wherein the diameters of the circular and annular electrodes are substantially greater than a combined thickness of the mirror stack, the gain region, and the substrate remnant.

25. (New) The Vertical External Cavity Surface Emitting Laser of claim 24 wherein the diameters of the circular and annular electrodes are substantially equal to a diameter of the fundamental cavity mode.

26. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the mirror stack comprises a distributed Bragg reflector.

27. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the substrate remnant is formed by a Chemical and Mechanical Planarization (CMP) process.

28. (New) The Vertical External Cavity Surface Emitting Laser of claim 27 wherein the substrate remnant has a thickness wherein it is substantially transparent to light emitted by the Vertical External Cavity Surface Emitting Laser.

29. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the substrate remnant has a thickness of approximately 10 μm.

30. (New) The Vertical External Cavity Surface Emitting Laser of claim 21 wherein the substrate remnant has a thickness of approximately 150 μm.